Fig. 1

29 Kvolt

Legend:
- 598 µC/cm²
- 401 µC/cm²
- 215 µC/cm²
- 117 µC/cm²
- 0 µC/cm²

Y-axis: Optical Density (0.000, 0.500, 1.000, 1.500, 2.000, 2.500, 3.000)

X-axis: Wavelength [nm] (350, 370, 390, 410, 430, 450, 470, 490, 510, 530, 550, 570, 590, 610, 630, 650, 670, 690)

Fig. 2

Fig. 3

Fig. 4

Fig. 5

15 Kvolt

Legend:
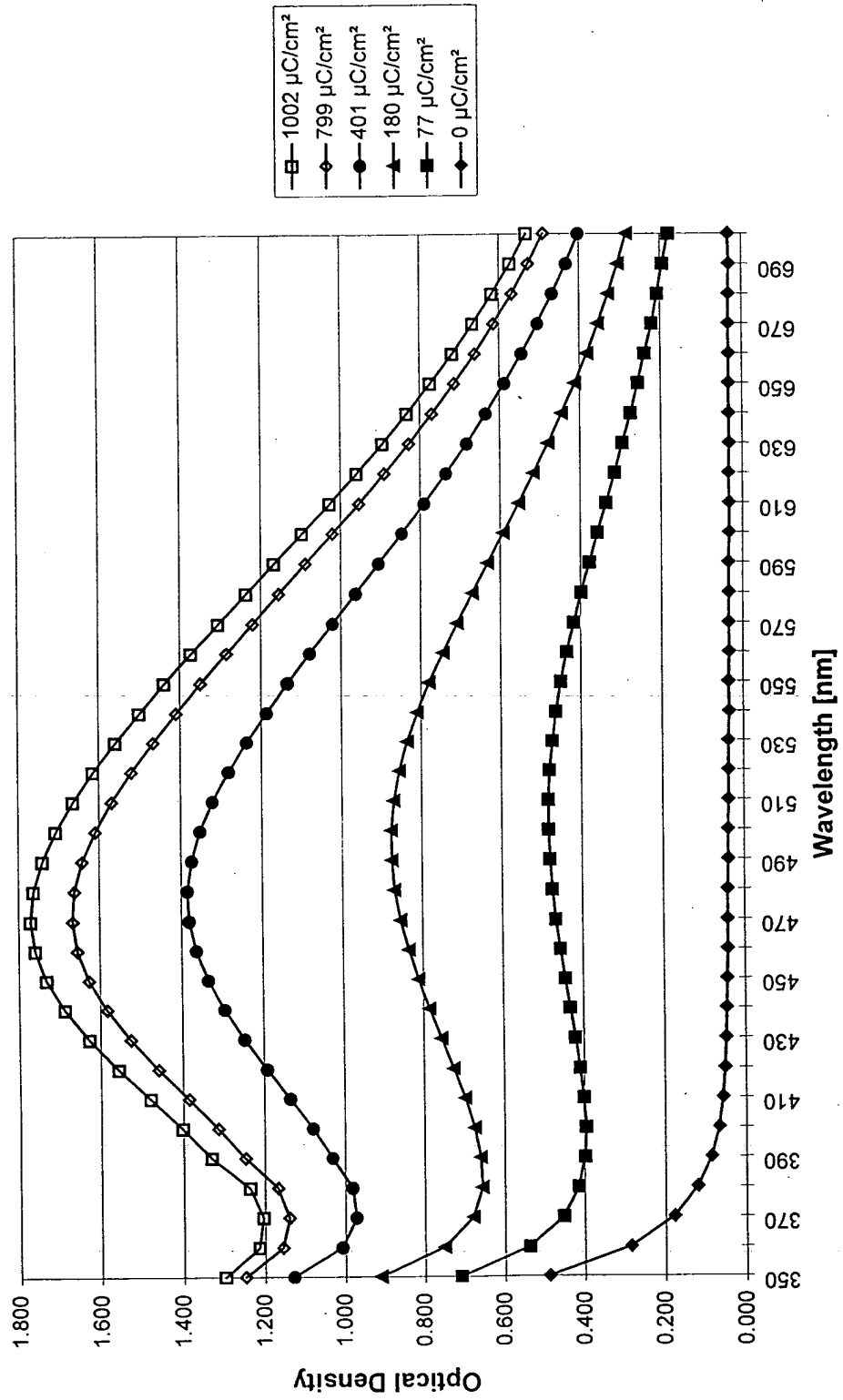- 1002 µC/cm²
- 799 µC/cm²
- 401 µC/cm²
- 180 µC/cm²
- 77 µC/cm²
- 0 µC/cm²

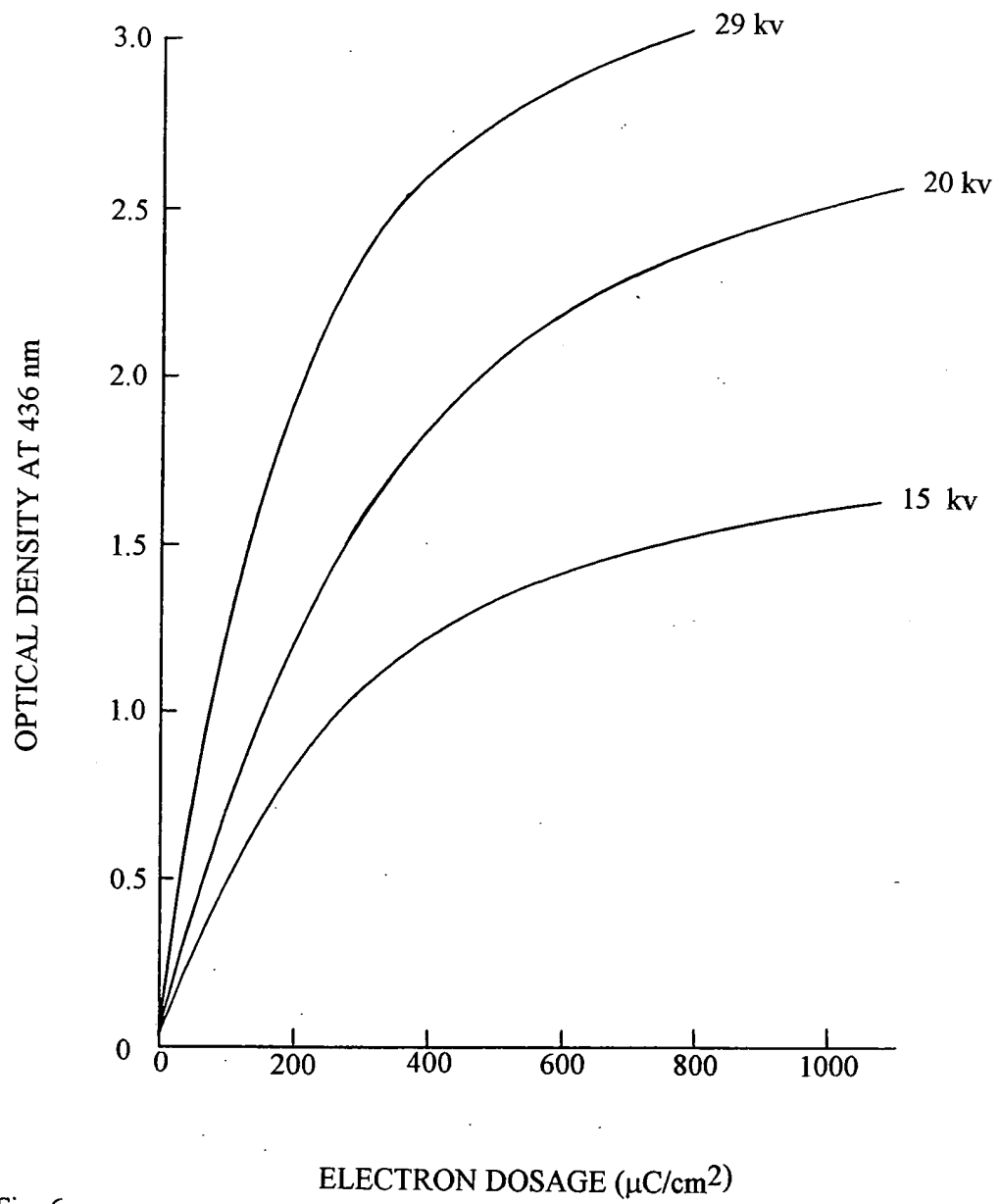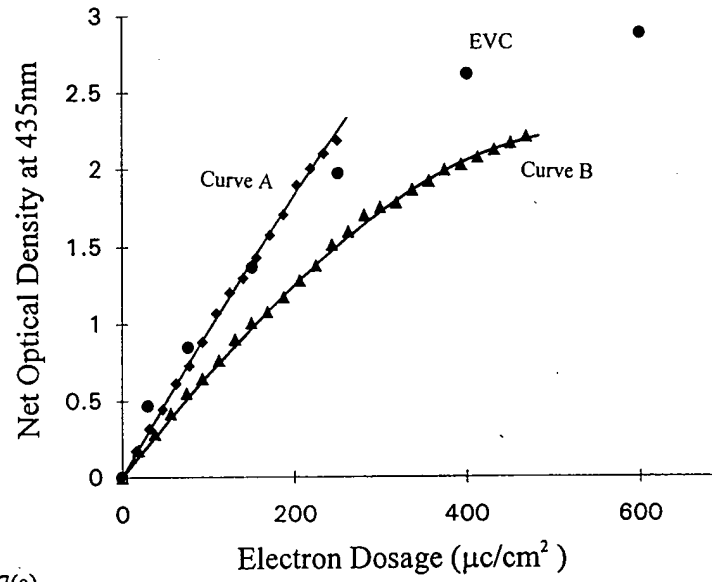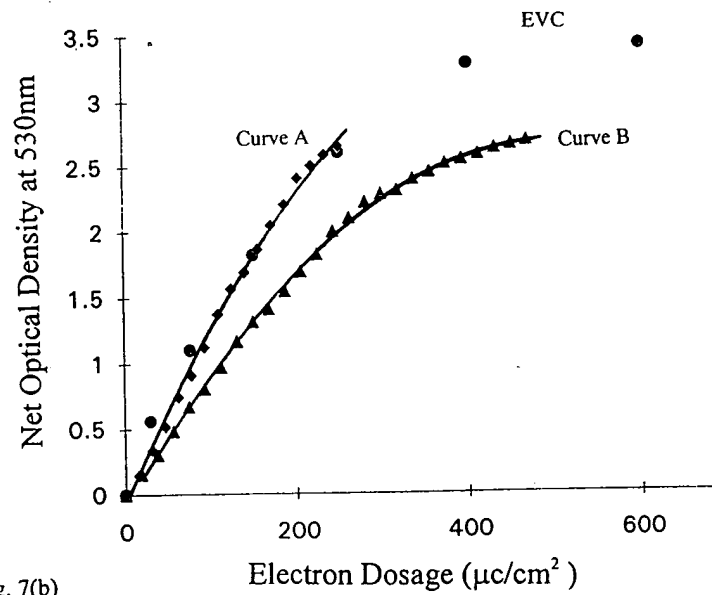Optical Density

Wavelength [nm]

Fig. 6

Fig. 7(a)

Fig. 7(b)

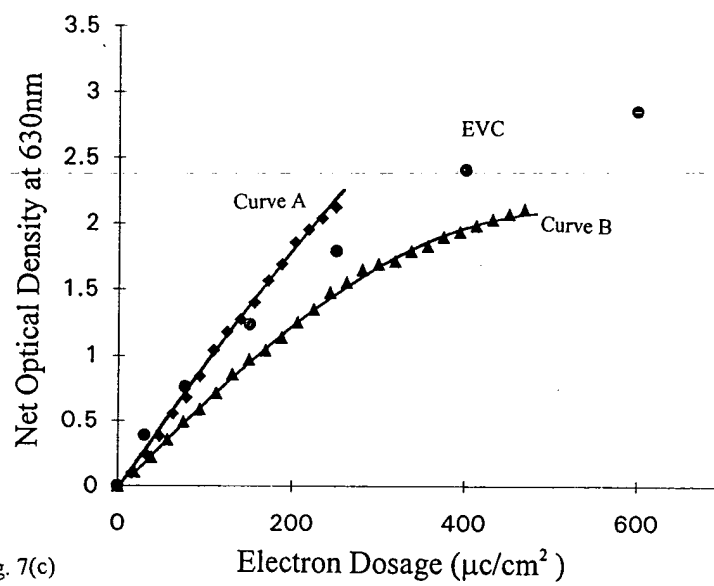Fig. 7(c)

30kv, 0.4micron, 250na, 365nm

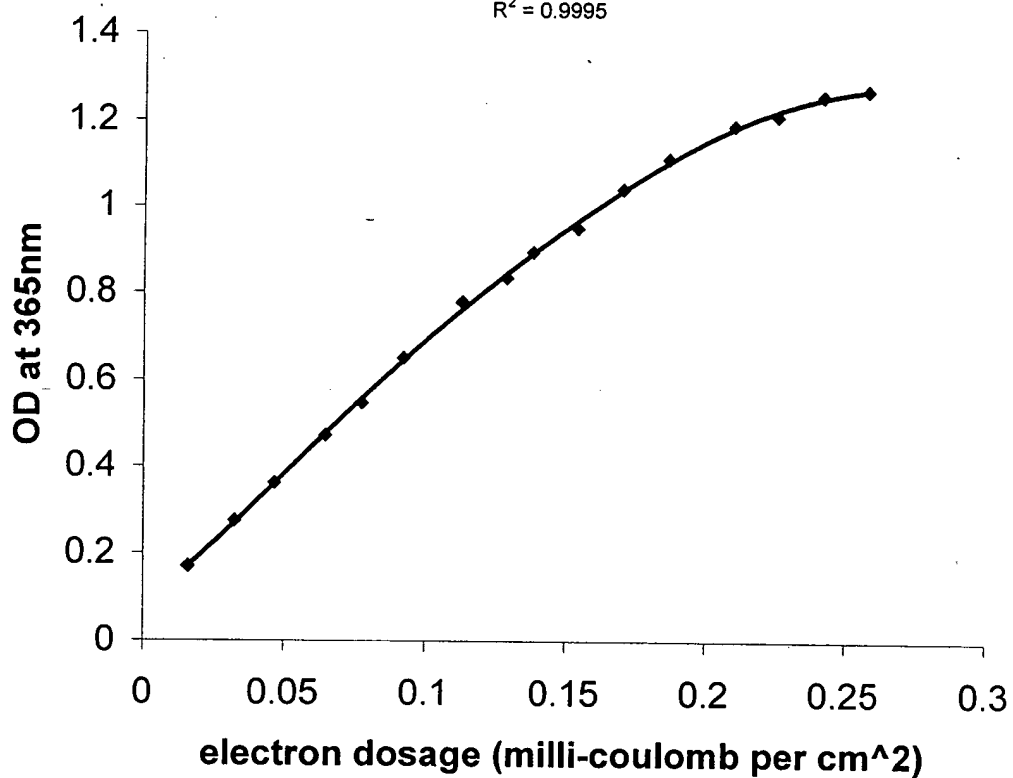$y = 19708x^6 - 17787x^5 + 6181.2x^4 - 1063.8x^3 + 85.688x^2 + 3.3806x + 0.0988$

$R^2 = 0.9995$

Fig. 7 (d)

30kv, 0.4micron, 250na, 435nm

$y = -15440x^6 + 12082x^5 - 3761.5x^4 + 555.15x^3 - 40.414x^2 + 10.637x$
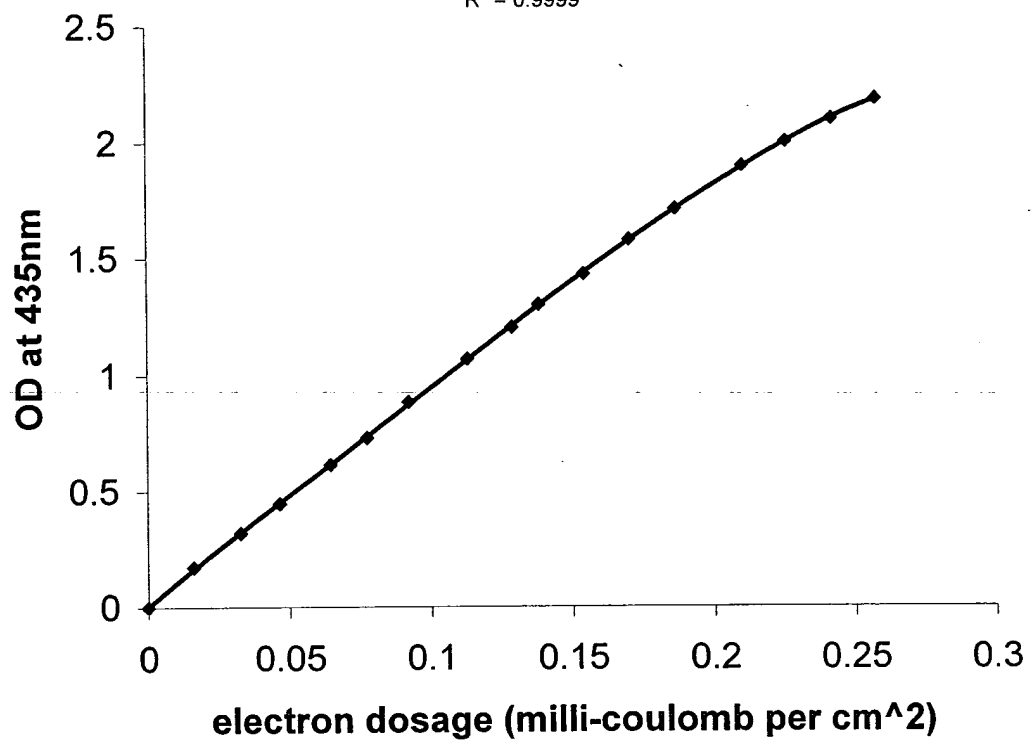
$R^2 = 0.9999$

Fig. 7 (e)

30kv, 0.4micron, 250na, 530nm

$y = 46062x^6 - 38146x^5 + 12229x^4 - 2013.9x^3 + 173.69x^2 + 5.8097x + 0.0174$
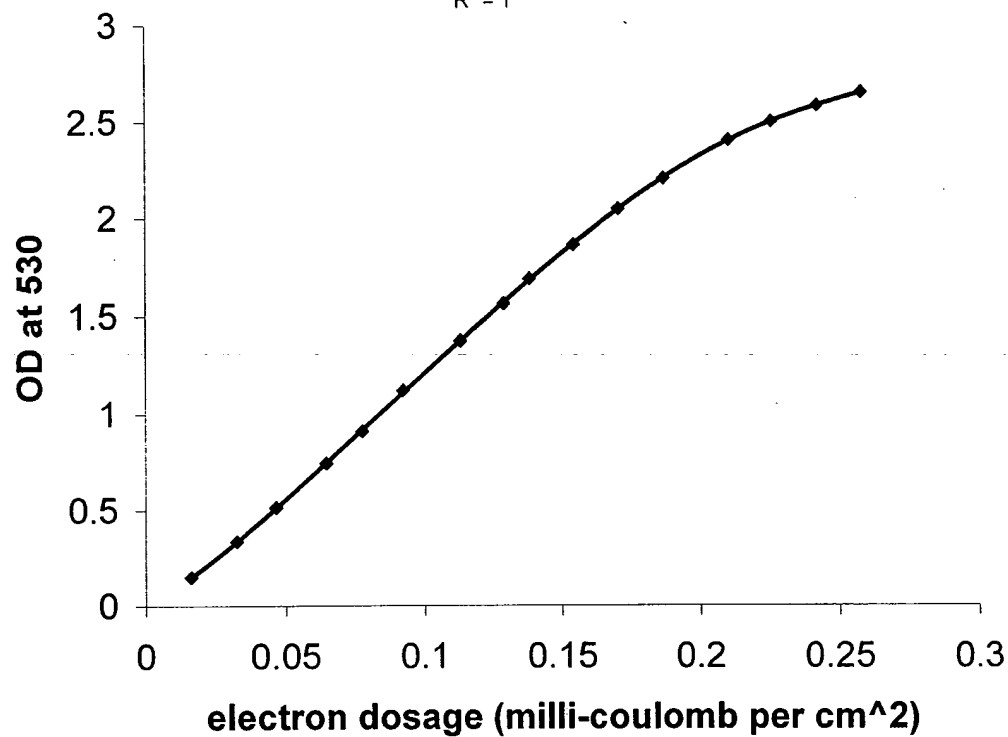
$R^2 = 1$

Fig. 7 (f)

30kv, 0.4micron, 250na, 630nm

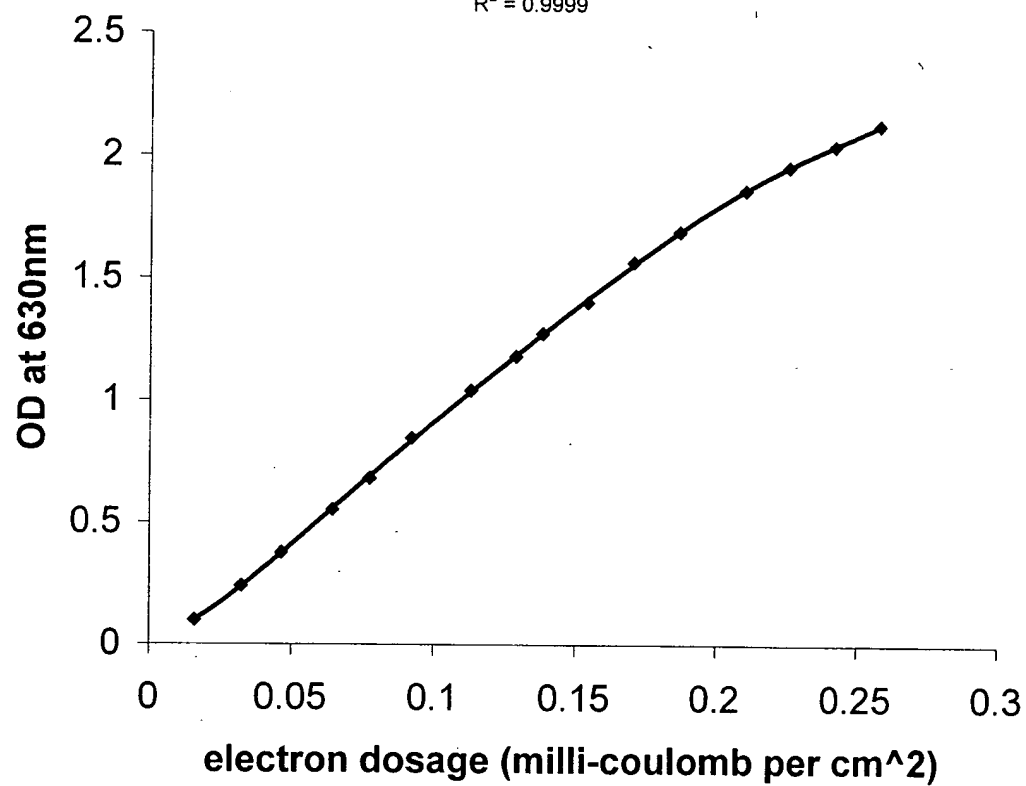$y = 51961x^6 - 43905x^5 + 14402x^4 - 2361.2x^3 + 197.27x^2 + 2.2436x + 0.0222$
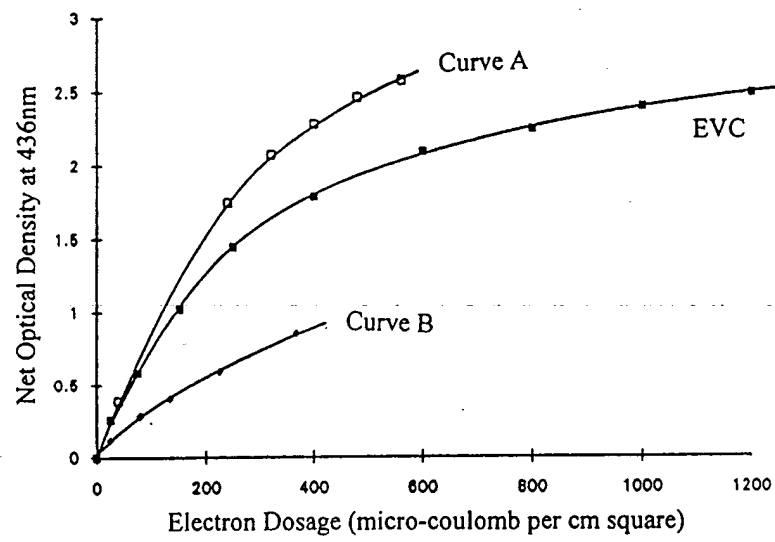
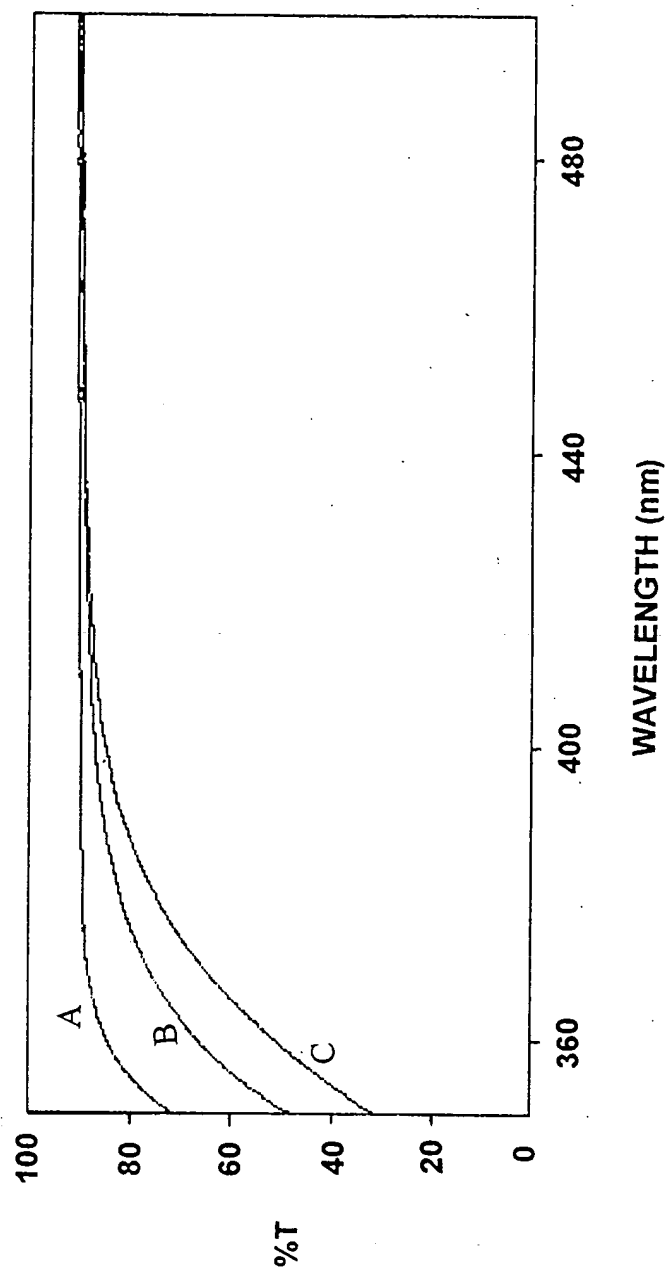$R^2 = 0.9999$

Fig. 7 (g)
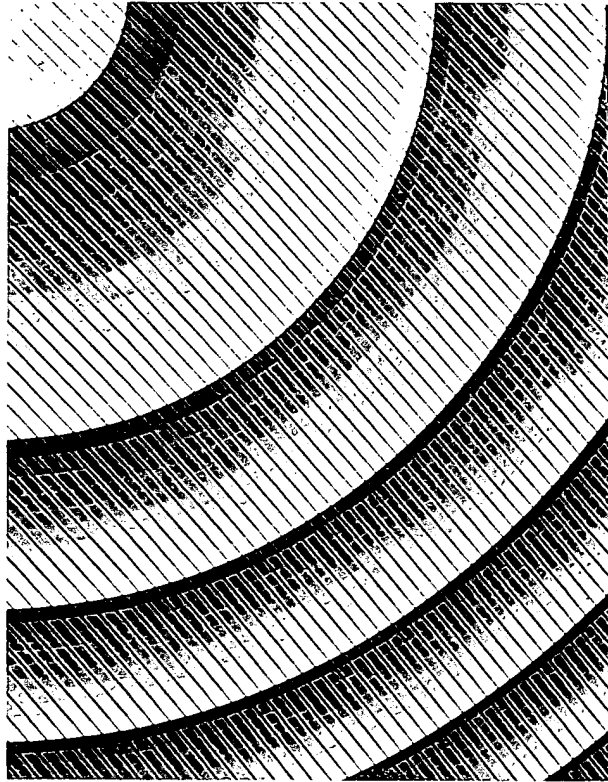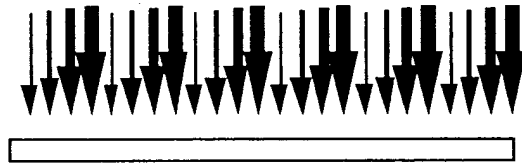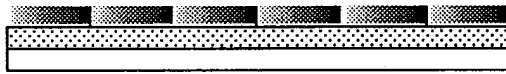
Fig. 8

Fig. 9

Fig. 10

Fig. 11

a.) HEBS-Glass mask material exposed in e-beam writer

b.) Gray-Level mask generated in HEBS-Glass

c.) Photoresist exposure in optical lithography tool

d.) Resist surface profile after development

e.) Surface profile in substrate material after CAIBE transfer step

Fig. 12

HEBS-Glass material exposed in e-beam writer

Gray-Level mask generated in HEBS-Glass

Photoresist exposure in mask-aligner

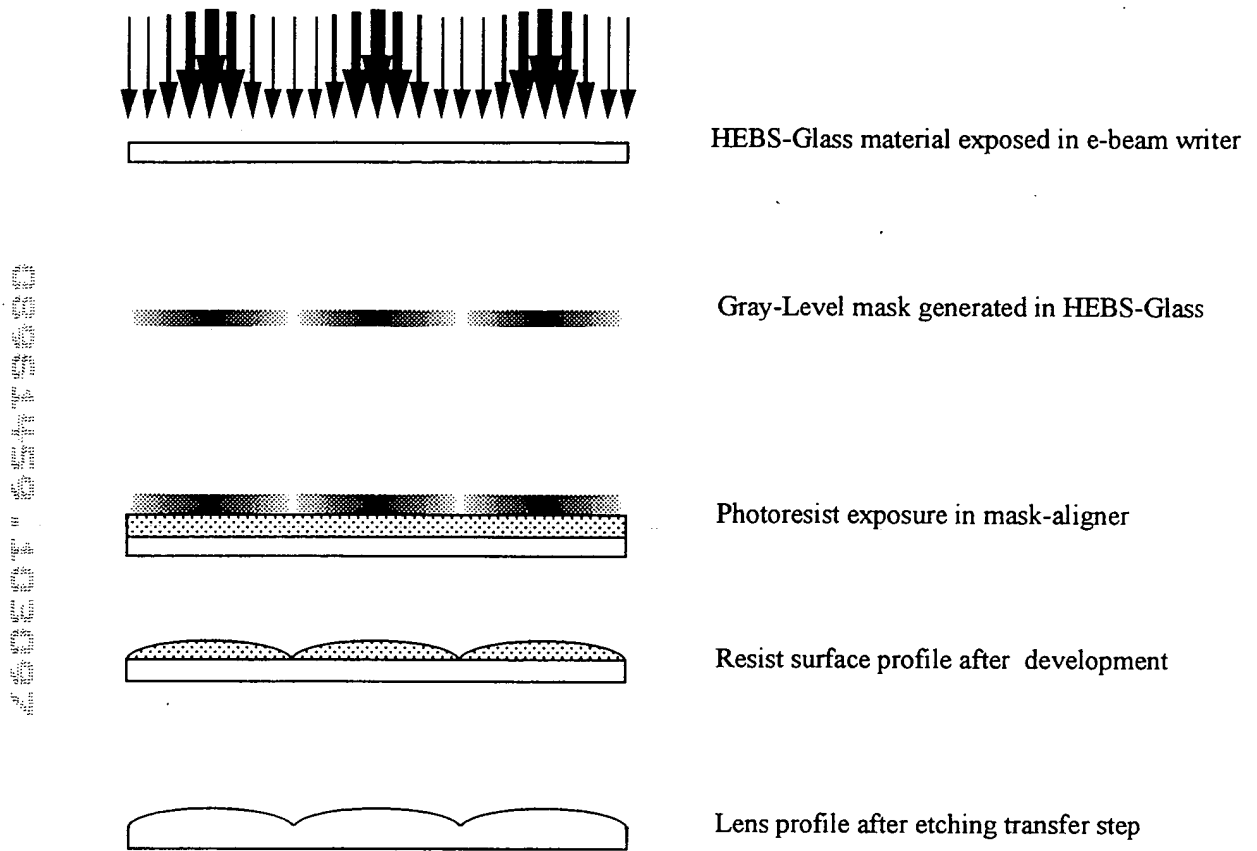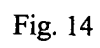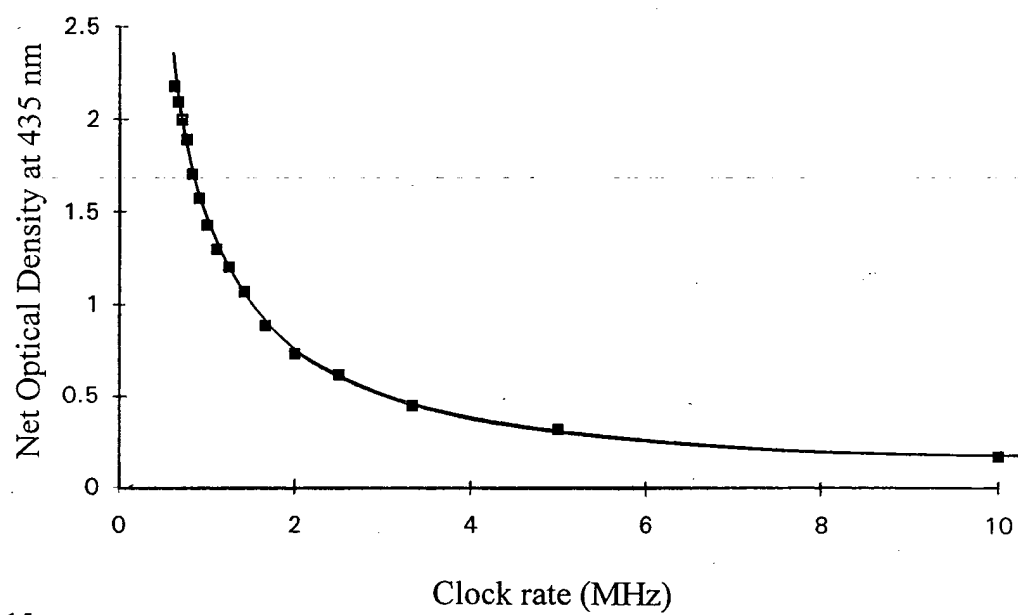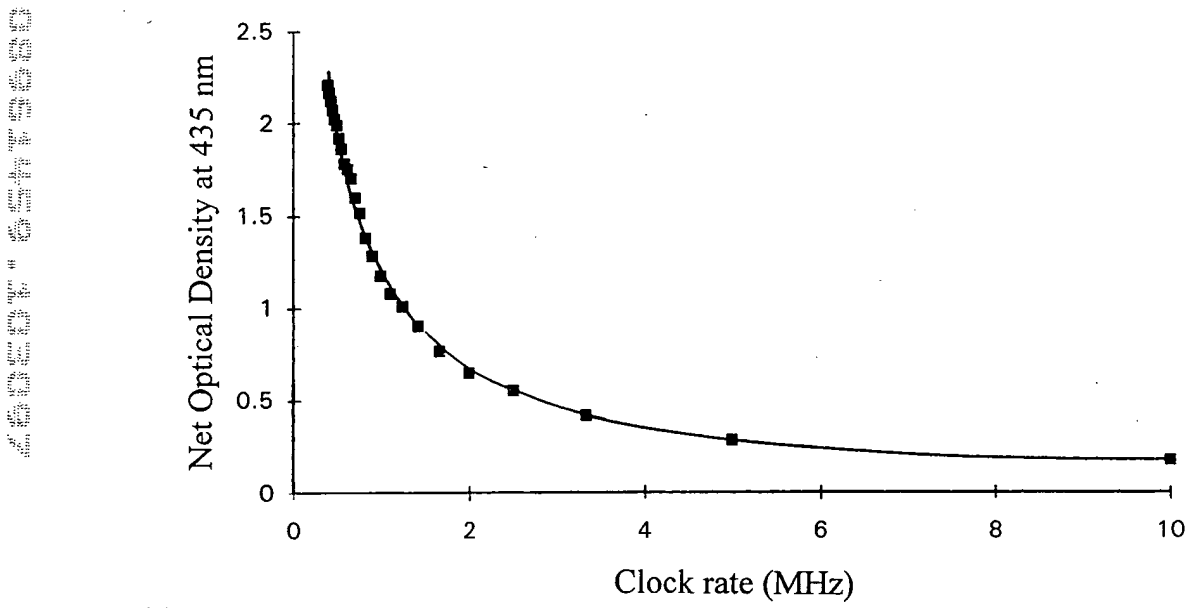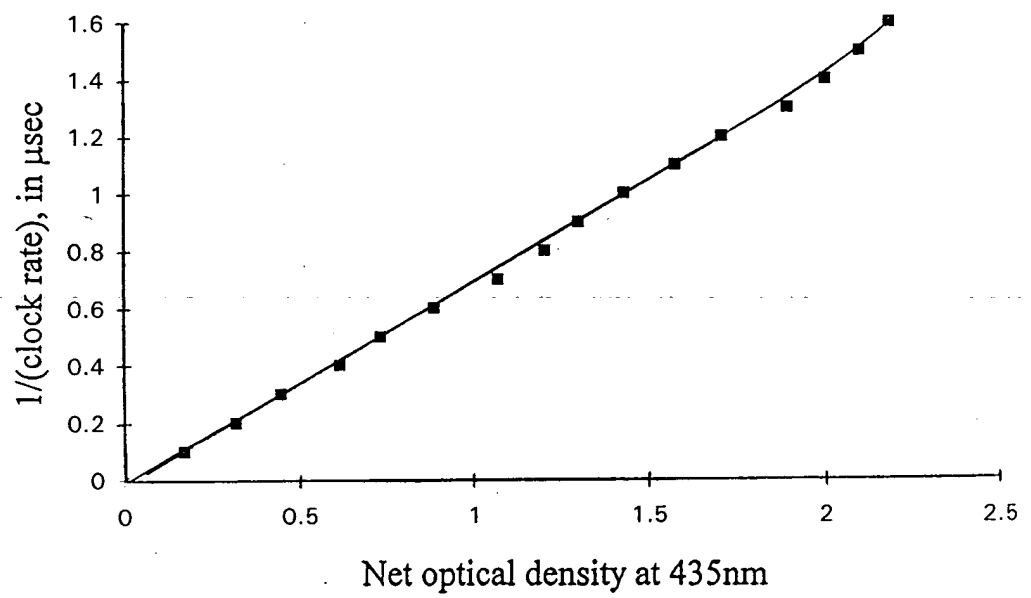Resist surface profile after development

Lens profile after etching transfer step

Fig. 13

Fig. 14

Fig. 15

Fig. 16

Fig. 17

Fig. 18

Fig.19

Fig.20